

REMARKS/ARGUMENTS

In the Office Action mailed April 22, 2004, the Examiner rejected all pending claims 1-111.

The Examiner rejected claims 1, 3, 9, 10, 14, 16, 17, 20, 22-24, 26-29, 34, 35, 37-39, 41, 47, 49, 56, 59-60, 68, 71, 73, 74, 76, 78, 80, 81, 83, 90, 92-94, 96-99, 103 and 104 as allegedly anticipated by published UK Patent Application GB 2 305 233 A (GB '233).

The Examiner rejected claims 2, 40, 77 and 79 as allegedly being unpatentable over GB '233 in view of US 6,342,997 (Khadkikar).

The Examiner rejected claims 4, 5, 7, 8, and 42-46 as allegedly being unpatentable over BG '233 in view of US 5,361,215 (Tompkins).

The Examiner rejected claim 6 as allegedly being unpatentable over GB '233 as modified by Tompkins, further in view of Khadkikar.

The Examiner rejected claims 15, 48, and 82 as being allegedly unpatentable over GB '233 in view of US 5,872,890 (LaCombe).

The Examiner rejected claims 36 and 70 as allegedly being unpatentable over GB '233 in view of US 5,325,822 (Fernandez).

The Examiner rejected 11-13, 18, 19, 21, 25, 30-32, 50-55, 57, 61, 66, 67, 72, 75, 84-89, 91, 95, 100-102 and 105-111 as allegedly being unpatentable over GB '233.

The Examiner did not make any specific findings with respect to claim 33, 58 or 62-65. The specification as originally filed did not include a claim 69.

Amended Claims:

Applicants respectfully submit that the amendments to the claims 1-14, 16-22, 24-47, 49-58, 60-68, 70-81, 83-92 and 94-111 and the cancellation of claims 15, 23, 48, 59, 82 and 93 moot all previous rejections. Applications respectfully submit that none of the cited references, alone or in combination, disclose, teach or suggest all of the limitations of any of the amended claims or of the new claims 112 and 113. For example, none of the cited references

disclose, teach or suggest, alone or in combination, at least the following limitations of independent claims 1, 39, 76 and 112:

“ . . . wherein the electronic controller is configured . . . to control power to a pump for recirculating the water through the recirculating water flow path.”

claim 1;

“ . . . the electronic controller is . . . configured . . . to control power to a pump for recirculating the water through the recirculating water flow path . . . ”

claim 39;

“ . . . wherein the electronic controller is . . . configured to control power to a pump for recirculating the water through the recirculating water flow path . . . ”

claim 76. The dependent claims include additional limitations that further distinguish over the cited references.

Applicants respectfully submit that the amendments are supported in the specification at least at original claims 1-111, FIG. 1 and at page 7, line 30 through page 8, line 2.

New Claims 112 and 113:

Applicants respectfully submit that new claims 112 and 113 are not unpatentable over the cited references for reasons similar to those given with respect to claim 1 above. Claims 112 and 113 are also not unpatentable over the cited references GB '233 and LaCombe. Moreover, the Examiner has failed to show a motivation for combining GB '233 with LaCombe.

Neither GB '233 nor LaCombe disclose, teach or suggest, for example, at least the following limitations of the new claims:

“ . . . wherein the heating chamber comprises non-conductive material and at least one resistor is attached directly to the outer dry surface of the heating chamber . . . ”

claim 112; or

" . . . wherein the at least one resistor comprises electrically conductive particles dispersed in a binding material."

claim 113.

GB '233 discusses subjecting blank steel plates 2 and 3 "to a high temperature process to enrich their surface layers with a defined chromium oxide layer. . . . The plates are then printed, dried and fired with successive layers of dielectric material The thick film printed circuit is then printed using a silk screen printing method . . ." GB '233 does not disclose, teach or suggest that "the at least one resistor is attached directly onto the at least one heating surface." Nor does it disclose, teach or suggest that the at least one resistor is attached directly to the at least one resistor "wherein the at least one heating surface [(or pipe)] is made of a non-conductive material" as claimed in claims 15, 48 and 52.

LaCombe states that a " length of rigid polymer pipe 21 interconnects the special tee section 17 with the alignment bushing 19 and thereby encases the cartridge heater 13 and provides a continuous fluid flow path." 3:37-40. The heater is not "attached directly onto the at least one heating surface."

The Examiner has not established a motivation to combine the "steel plates 2" and "chromium oxide layer" of GB '233 with the "rigid polymer pipe 21" of LaCombe to disclose, teach or suggest all of the limitations of either of new claims 112 or 113.

New Claims 114-121:

Applicants respectfully submit that new claims 114-121 are not unpatentable over the cited references for reasons similar to those given with respect to claim 1 above. Applicants respectfully submit that new claims 114 and 115 are fully supported in the specification at least at FIGS. 2-6.

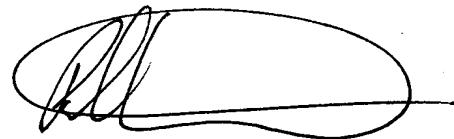
Amendments to the Figures:

Applicants respectfully request that the Examiner enter the amendment to Figure 1. The "cables" have been relabeled as reference number 13. The amendment is supported in the specification at least at Page 7, line 30 through Page 8, Line 2.

CONCLUSION

For the foregoing reasons, Applicants request that the Examiner withdraw the rejections of claims 1-111 and allow claims 1-14, 16-22, 24-47, 49-58, 60-68, 70-81, 83-92 and 94-121.

Respectfully submitted,



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Dated: 9/21/04

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Amendments to the Drawings:

The attached Replacement Sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig.1, replaces the original sheet including Fig. 1. In Figure 1, previously mislabeled "cables" connecting the electronic control system 2 to the air blower 7 and pumps 1, 2 have been changed from the incorrect number 14 to the correct number 13. The attached Annotated Marked-Up Drawings sheet indicates the changes made.

- Attachments:
- 1. Replacement Sheet
 - 2. Annotated Marked-up Drawings sheet showing changes.

ANNOTATED MARKED UP DRAWINGS SHEET

